

CLAIMS

1. A method for transcoding digital images, comprising:  
decoding of at least portions of a first image coded  
according to a first method, for obtaining first  
coefficients of a luminance component and chrominance  
components of the first image coded according to the  
first method;

combined inverse quantization according to the first  
method and quantization according to a second method of  
the first coefficients of the chrominance components of  
the first image coded according to the first method, by  
means of a chrominance quantization matrix of the first  
method for inverse quantization according to the first  
method and a luminance quantization matrix of the first  
method for quantization according to the second method,  
for obtaining second coefficients of chrominance  
components of at least portions of a second image  
according to the second method having the same chroma  
format as the first image coded according to the first  
method; and

coding of the first coefficients of the luminance  
component of the at least portions of the first image  
coded according to the first method and of the second  
coefficients of the chrominance components of the at  
least portions of the second image according to the  
second method, for obtaining at least portions of the  
second image decodable according to the second method.

2. The method according to claim 1, wherein the  
combined inverse quantization according to the first  
method and quantization according to the second method  
comprises:

deriving of each of the second coefficients of  
chrominance components of the at least portions of the  
second image according to the second method as the  
multiplication of a corresponding coefficient of the

first coefficients of the chrominance components of the first image coded according to the first method with a quotient between a corresponding element in the chrominance quantization matrix of the first method and a corresponding element in the luminance quantization matrix of the first method.

3. The method according to claim 2, further comprising:  
providing of a precomputed set of quotients between each element in the chrominance quantization matrix of the first method and a corresponding element in the luminance quantization matrix of the first method.

4. The method according to any one of claim 1-3,  
further comprising:

decoding of the at least portions of the second image decodable according to the second method.

5. The method according to any one of claim 1-4,  
wherein

the first image coded according to the first method is an JPEG image, and

the second image coded according to the second method is an MPEG intra frame.

6. The method according to claim 5, wherein  
the first and second coefficients are quantized discrete cosine transform coefficients,  
the inverse quantization according to the first method is JPEG inverse quantization,  
the quantization according to the second method is MPEG quantization,  
the chrominance quantization matrix of the first method is the JPEG chrominance quantization matrix, and  
the luminance quantization matrix of the first method is the JPEG luminance quantization matrix.

7. The method according to claim 5 or 6, wherein the decoding comprises:

JPEG variable length decoding of the luminance component and the chrominance components of the JPEG image; and

JPEG run length decoding of the JPEG variable length decoded luminance component and chrominance components, for obtaining quantized discrete cosine transform coefficients of a luminance component and chrominance components of the JPEG image.

8. The method according to any one of claim 5-7, wherein the coding comprises:

MPEG run length coding of the quantized discrete cosine transform coefficients of the luminance component of the JPEG image and of the quantized discrete cosine transform coefficients of chrominance components of a MPEG intra frame; and

MPEG variable length coding of the result of the MPEG run length coding.

9. The method according to any one of claim 5-8, wherein MPEG-2 is used.

10. The method according to any one of claim 5-8, wherein MPEG-4 is used.

11. The method according to any one of claim 5-8, wherein MPEG-1 is used.

12. The method according to any one of claim 5-11, wherein the chroma format of the JPEG image and the MPEG intra frame is 4:2:0.

13. A device for transcoding digital images, comprising:  
a means for decoding of at least portions of a first image coded according to a first method for obtaining

first coefficients of a luminance component and chrominance components of the first image coded according to the first method;

a means for combined inverse quantization according to the first method and quantization according to a second method of the first coefficients of the chrominance components of the first image coded according to the first method, by means of a chrominance matrix of the first method for inverse quantization according to the first method and a luminance quantization matrix of the first method for quantization according to the second method, for obtaining second coefficients of chrominance components of at least portions of a second image according to the second method having the same chroma format as the first image coded according to the first method, said means being operatively connected to said means for decoding; and

a means for coding of the first coefficients of the luminance component of the at least portions of the first image coded according to the first method and of the second coefficients of the chrominance components of at least portions of the second image according to the second method, for obtaining at least portions of the second image decodable according to the second method, said means being operatively connected to said means for combined inverse quantization and quantization and to said means for decoding.

14. The device according to claim 13, wherein the means for combined inverse quantization and quantization is arranged to derive each of the second coefficients of chrominance components of the at least portions of the second image according to the second method as the multiplication of a corresponding coefficient of the first coefficients of the chrominance components of the first image coded according to the first method with the quotient between a corresponding element in the

chrominance quantization matrix of the first method and a corresponding element in the luminance quantization matrix of the first method.

15. The device according to claim 14, further comprising:

a means for providing of a precomputed set of quotients between each element in the chrominance quantization matrix of the first method and a corresponding element in the luminance quantization matrix of the first method, said means being operatively connected to said means for combined inverse quantization and quantization.

16. The device according to any one of claim 13-15, further comprising:

a means for decoding of the at least portions of the second image decodable according to the second method, said means being operatively connected to said means for coding.

17. The device according to any one of claim 13-16, wherein

the first image coded according to the first method is an JPEG image,

the second image coded according to the second method is an MPEG intra frame.

18. The device according to claim 17, wherein

the first and second coefficients are quantized discrete cosine transform coefficients,

the inverse quantization according to the first method is JPEG inverse quantization,

the quantization according to the second method is MPEG quantization,

the chrominance quantization matrix of the first method is the JPEG chrominance quantization matrix, and

the luminance quantization matrix of the first method I the JPEG luminance quantization matrix.

19. The device according to claim 17 or 18, wherein the means for decoding comprises:

a means for JPEG variable length decoding of the luminance component and the chrominance components of the JPEG image; and

a means for JPEG run length decoding of the JPEG variable length decoded luminance component and chrominance components, for obtaining quantized discrete cosine transform coefficients of a luminance component and chrominance components of the JPEG image.

20. The method according to any one of claim 17-19, wherein the means for coding comprises:

a means for MPEG run length coding of the quantized discrete cosine transform coefficients of the luminance component of the JPEG image and of the quantized discrete cosine transform coefficients of chrominance components of a MPEG intra frame; and

a means for MPEG variable length coding of the result from the means for MPEG run length coding.

21. The device according to any one of claim 17-20, wherein MPEG-2 is used.

22. The device according to any one of claim 17-20, wherein MPEG-4 is used.

23. The device according to any one of claim 17-20, wherein MPEG-1 is used.

24. The device according to any one of claim 17-23, wherein the chroma format of the JPEG image and the MPEG intra frame is 4:2:0.